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like to see it published weekly if you could only see your way clear to do so. I am sure there are thousands of men who work in wood in this country who would be willing to pay three or four dollars a year for your paper if they could get it weekly. I would like to hear the opinions of some of my brother readers on this question.

JOHN RANDOLPH.

DETROIT, July 12th, 1879.

Intercommunication.

This department is intended to furnish, for the benefit of all our readers, practical information regarding the art of manipulating wood by hand or machinery; and we trust that every reader of our paper will make the fullest use of it, both in asking and answering. All persons possessing additional or more correct information than that which is given relating to the queries published, are cordially invited to forward it to us for publication. All questions will be numbered, and in replying it will be absolutely necessary, in order to secure due insertion, that the NUMBER and TITLE of the question answered should be given; and in sending questions, the title of key-words of the question should be placed at the head of the paper. Correspondents should in all cases send their addresses, not necessarily for publication, but for future reference. We also request that all questions or answers be written on separate slips of paper, and addressed to the Editor. Notes of practical interest will be welcome at all times. When drawings are sent to illustrate answers to questions, or for full pages, they should be on separate slips, and should be drawn in ink on clean, white paper. Short questions, requiring short answers, may be asked and answered through the agency of postal cards.

When answers to questions are wanted by mail, the querist must send a stamp for return postage.

Queries.

52. HIGH BUILDINGS.—Will you please give me, through your paper, the names and height of some of the loftiest buildings in the world?—ASPIRE.

53. BLACKBOARD.—I should be very much pleased if some kind reader would publish in the WOOD-WORKER a receipt for making a blackboard for school purposes.—AMATEUR.

54. PAINT.—I wish to paint the floors of a house; what kind of paint is best to use?—PET.

55. FIRE.—Could you, or any of your readers, give me any information or method by which wood can be made to withstand the action of fire?—VULCAN.

56. WOOD.—What causes wood to decay?—VULCAN.

57. EMBOSsing.—I wish to emboss some wood-work; any information on the subject will be fully appreciated by—WOOD-BUTCHER.

58. SPANDRIL.—I frequently see the word "spandril" used in architectural works; what does it mean?—TYRO.

59. RUBBER.—Can any reader of the WOOD-WORKER inform me how to melt hard, vulcanized rubber? I wish to make moulds for plaster casts, and want to use the rubber

for that purpose. Any information will oblige—PLASTERER.

60. CHAIRS.—When did chairs come into general use, and what constitutes a good one?—EASE.

61. PICTURE FRAMES.—Is it better to use two nails for hanging small pictures than one?—LUCY.

62. ÆOLIAN HARP.—Who invented the Æolian Harp? Isn't it an American invention?—YANKEE.

62. STAIN.—How is satin-wood stained, polished, and finished?—G. H. F.

Answers.

We wish it distinctly understood, that we do not hold ourselves responsible for the accuracy or reliability of answers furnished to this department by our correspondents.

We cordially invite our readers to take an active part in this department, as we are confident that much good can be accomplished by a free interchange of ideas and opinions in regard to subjects connected with the art of wood-working.

Many persons are afraid to write to a public journal because of their lack of literary attainments; to such we would say: Give us your ideas in such language as you can command, and leave the rest to us. It is ideas and opinions we want, such as may be of use to the workman or amateur. Answers should be sent to this office on or before the fifteenth of each month, to insure insertion in the next issue.

43. WREATH.—I for one have never been able to thoroughly understand Plate 10 in Lucius Gould's "Stair-Builder's Guide." I have attempted to construct a rail after the lines shown on the plate several times, but always met with failure. Perhaps it was because I was too dull to comprehend his system.—BEVEL.

45. PLANES.—A. P. G. will find the "rounds and hollows" made by Lindsey Brothers, of Huntington, Mass., as good, if not better, than any other in the market. These planes leave the manufactory all fitted up in good order and ready for use. I have used Bailey's bench-planes; they are good, but I prefer the "Rodier" single iron bench-planes, as they are superior in many respects to the Bailey. I would advise any of your readers who want to buy planes to try a set of "Rodier's patent."—R. M. PORTER.

46. TRADES.—Carpentry is the art of combining pieces of timber for the support of any considerable weight or pressure.

The theory of carpentry is founded on two distinct branches of mechanical science: the one informs us how strains are propagated through a system of framing; the other, how to proportion the resistance of its parts, so that all may be sufficiently strong to resist the strains to which they are exposed. The one determines the stability of position, the other the stability of resistance. Each of these may be considered in the most simple manner the subject admits of, with the addition of rules and practical remarks.

Timber is wrought into various forms according to the principles of geometry; and these forms are to be preserved in their original shape only by adjusting the stress and strain according to the laws of mechanics. Hence the importance of studying both these sciences is evident, and particularly the latter; for unless the stress and strain be accurately adjusted, the most careful attention to geometrical rules, and the most skilful workmanship, will be exerted in vain.

Joinery, on the other hand, is the art of joining, and comprehends all the fixed wood-work intended for ornament or convenience in the interior of a house, which must of necessity be skilfully done. The first trade builds the skeleton and gives it strength and character; the second clothes it with becoming apparel, and makes it attractive with ornamentation.—**PHIZ.**

47. **MAHOGANY.**—Beech is the wood which, when stained and polished, most resembles mahogany. It is often stained with slightly diluted nitric acid, applied with a brush and dried rapidly at a fire. Care must be taken not to get the stain too dark, which is readily done. A little practice on some waste pieces of wood is advisable. When of a sufficient color smooth the partially raised fibre of the wood by means of very fine sand-paper, oil with red oil—linseed oil, in which a little alkanet root has been steeped in a warm place—and varnish or French polish, as may be required.—**INDUSTRIOUS.**

48. **VARNISHING.**—“Apprentice” must first make the work quite clean; then fill up all knots or blemishes with cement of the same color. See that the brush is clean and free from loose hairs; then dip it in the varnish, stroke it along the wire raised across the varnish-pot, and give the work a thin and regular coat; soon after that another, and another, always taking care not to pass the brush twice in the same place. Let the work stand to dry in a moderately warm place, that the varnish may not chill.—**OLD HAND.**

50. **PEWS.**—Perhaps the following will suit “Architectus.” I have clipped it from an old magazine. “In the early days of the Anglo-Saxon and some of the Norman churches a stone bench afforded the only sitting accommodations for members or visitors. In the year 1319 they are spoken of as sitting on the ground or in a standing posture. At a later period the people introduced low three-legged stools, and they were placed in no uniform order in the church. Directly after the Norman conquest wooden seats came in fashion. In 1387 a decree was issued that none should call any seat in the church his own except noblemen and patrons, each entering and holding the one he first found. From 1530

to 1540 seats were more appropriated, and a wood-bar guarded the entrance, bearing the initial of the owner. It was in 1608 that galleries were thought of, and as early as 1614 pews were arranged to afford comfort by being baized or cushioned, while the sides around were so high as to hide the occupants—a device of the Puritans to avoid being seen by the officer, who reported those who did not stand when the name of Jesus was mentioned.”—**ANTIQUARY.**

51. **EBONIZING.**—I forward you a number of recipes for ebonizing, some one of which may suit **EBENEZER.**

“1. Stain work with the black stain, adding powdered nutgall to the logwood and copperas solution; dry rub down well, oil; then use French polish made tolerably dark with indigo or finely-powdered stone-blue. 2. Hold an ordinary slate over gas, lamp, or candle, until it is well smoked at the bottom; scrape a sufficient quantity into French polish, and well mix; then polish the article in the ordinary way. If there are any lumps, gently rub them down and apply another coat. 3. Prepare a decoction of logwood by adding a small handful of chips to a pint of rain water. Allow this to simmer until reduced one fourth, and whilst the liquor is hot dress the work to be ebonized two or three times. To the remainder of the liquor add two bruised nutgalls, a few very rusty nails, bits of iron-hooping, or a piece of sulphate of iron the size of a walnut, and as much more rainwater as will make about three quarters of a pint of liquor. Apply this, which will be a black stain, heat as before, two coats, and when thoroughly dry, polish with ordinary French polish, to which sufficient powdered thumb-blue has been added to perceptibly color the polish. Use a glazed pipkin in which to prepare the stain. Take care that no oil or grease comes in contact with the brushes used on the surface of the wood until ready for polishing. Let each coat of stain dry before the next is added, and rub down with well-used fine glass paper. Sycamore, chestnut, and plane-tree are the best woods for ebonizing in the above manner. 4. Infuse gall nuts in vinegar in which rusty nails have been soaked, rub the wood with the infusion, dry, polish, burnish. 5. Stain in the first place with a hot saturated solution of logwood, containing a little alum; and, when dry, brush it over with common writing ink.”—**QUIP.**

20. **RAILING.**—In reply to “Undertaker,” I submit the following design (Plate 60) for railing and the description, hoping they will help him out of his troubles. These railings are to be executed in wood, of which chestnut or whitewood would be suitable and desirable. The left-hand design intends a marble head-

stone of an ordinary pattern to be used, while the other one provides for a head and foot-board of wood. Posts of six-inch square stock. Rails, etc., of two-inch stock. Perforations chamfered or not, as desired. The designer can alter either of these to suit any party, or will correspond with parties desiring details of either or any other pattern.—F. T. C.

41. COMMUNION TABLE.—I send this design (Plate 63) and description in reply to "Clericus." Frame of $1\frac{1}{4}$ -in stock; cut panels of $\frac{1}{2}$ in.; backing $\frac{3}{4}$ in.; chamfers, fluted edges, and edges of cut panels blacked. Retable may be omitted. The designs I. H. C. and the Alpha and Omega may be cut or carved of black walnut and planted on, or may be of oak, the same as the material of the communion table itself, and gilded or blacked. Either would be very suitable. The designer will be happy to correspond with the clergyman desiring this communion table with a view to supplying him with the details.—F. T. C.

WE have received a number of answers from other correspondents, but are obliged to hold them over for want of space.

G. H. T., of Albany, N. Y., sends us a description of the "Howe Truss" in reply to Wm. E. H. Query, No. 33, and forwards a sheet of drawings in illustration. We are sorry we cannot make use of the latter, owing to the coloring, as by our process we can only reproduce drawings in ink on white paper or tracing cloth. We are always pleased, however, to receive drawings or other matter from our correspondents in reply to queries, and in this case will forward the drawings and text to the inquirer.—Ed.

Useful Items for Office and Shop.

A NEW METHOD OF BENDING WOOD.—The bending of hard wood has hitherto been effected by means of hot water or steam—a process somewhat costly as regards fuel, and taking a long time. A patent has recently been taken out in Germany by MM. Bahse and Haendel for making sieve-hoops and like objects by a dry process, more cheaply and in shorter time, from cut wood. Two rollers are used, one above the other and having less velocity, so that it acts by holding back, while the lower extends the wood fibres. When the board, thus bent, leaves the rollers, it is fastened in the mouth of the sieve. The upper roller is fluted, the under one smooth. If two smooth rollers were used, a very much greater pressure would be necessary.

ONE-IDEA MECHANICS.—The following remarks, from a very sensible article in the *American Machinist*, are worthy of considera-

tion: "Many a mechanic has impaired his intellect by too intense study upon a single machine. The road to success through mechanical invention is strewn with wrecks mental as well as financial, mainly because so many anxious plodders in the old beaten track never acquire more than the one idea they had to start with, and often this is positively erroneous. It is well to persevere in a worthy effort, but unwise to run in an old rut without inclination to get out of it. We have met one-idea mechanics who would earnestly insist that their invention or discovery completely upset the elementary principles of mechanism as laid down in the books. When any astonishing claims of this kind are presented, it is well to investigate them carefully before jumping to a conclusion."

Drawings for the Million.

THE complete clearing out of our "Detail Sheets" has encouraged us to offer the following packages of valuable drawings for sale, at the extremely low price of one dollar a package.

Each package will contain over two hundred designs, with all the necessary explanations and descriptions; also, a valuable amount of building information, consisting of tables, rules, recipes, price-lists, etc., etc. Three of these packages bound together will make a very useful work of reference for the architect, builder, carpenter, joiner, or any one connected with the building trades:

Three packages will be sent to one address for... \$2 50
Six packages for..... 4 50
Or the whole eleven packages for..... 8 00

Package No. 1 contains 238 designs of cottages, dormer-windows, verandas, consoles, barge-boards, porches, gates, door-heads, gables, chimney-tops, cornice and brackets, crestings, scroll-work, summer-house, eave brackets, stairs, full-sized sections of hand-railing, bay-window, wooden chairs, tables, writing-desks, perforated woodwork, fancy brickwork, doors, etc., etc. Price \$1.

Package No. 2 contains 15 elevations with plans of cottages and villas, 3 elevations and plans of churches, also over 200 designs of piazzas, bay-window cornices, hood brackets, gable triangles, chimney caps, crestings, window-caps, trusses, dormers, doors and frames, porches, corner finish, canopies, cornice arch, screens, gutters, brick and wood work, beltings, stair-balusters, newel-posts, flues, etc., etc. Price \$1.

Package No. 3 contains 39 elevations and plans for cottages, villas and dwellings; 10 elevations and plans for churches; and 146 designs for brick and stone work, shipwork, half-timbered work, verandas, drawing lessons, windows, doors, etc., etc.; also 26 designs of cornices, panels, etc., for plasterers. Price \$1.

Package No. 4 contains 51 plans and elevations for cottages, villas, barns, stables, and railway stations; also, 5 plans and elevations of churches; and 115 detail drawings of scroll-work, windows, bay-windows, gables, verandas, side finish, newel-posts, shipwork, general house details, bay-window frames, frieze cornices, balustrades, oriel window, fences, gates, vestibule and front door, open timber roofs, etc., etc. Price \$1.

Package No. 5 contains 72 elevations and plans of cottages, city houses, banks, villas, and country houses; also plan and elevation of schoolhouse, and 135 detail drawings of desks, counters, doors, door finish, piazzas, gables, dormers, vainscoting, chimney-cases, ceilings, front gables, porches, verandas, timber roofs, crestings, towers, vanes, stairs, mantels, balusters, newels, grilles, cornices, gateways, railing, etc., etc.

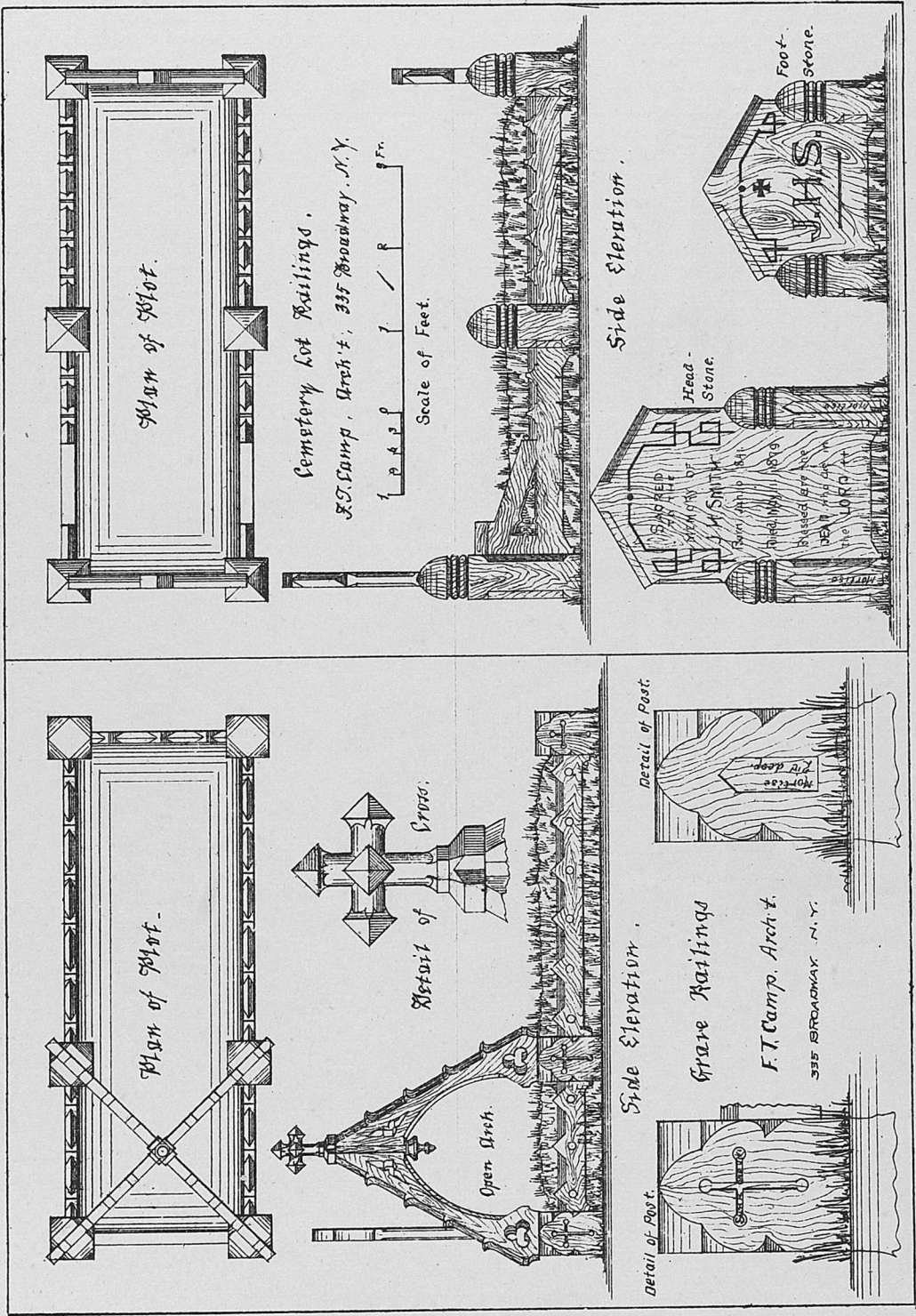
This is an excellent package. Price \$1.

Package No. 6 contains 38 plans and elevations of cottages, villas, and country houses; 3 plans and elevations of churches; and 135 detail drawings of fences, doors, windows, stairs, mantels, verandas, porches, stoops, carved work, gates, summer-house, newel-posts, balusters, wrought-iron work, chimney-tops, gables, examples of furniture, finials, bay-windows, dormers, hoods, arches, oriel, truncated gables, turned work, cornices, church furniture, counters, etc., etc.

Besides the above illustrative and necessary descriptive and explanatory matter, this package contains a series of illustrated papers on the use of the steel square. This package is an excellent one for carpenters and joiners who do work in the country towns, as the details are numerous and easily understood. Price \$1.

Package No. 7 contains 44 plans and elevations of cottages and villas; 164 detail drawings of roofs, mantels, windows, doors, balconies, verandas, stairs, newels, piazzas, vanes, dormers, pews, church finish, chimneys, brickwork, porches, cornices, pinnacles, brick arches, etc., etc. There are also five plans and

PLATE 60.



GRAVE RAILING.